

San Diego DX Club Bulletin

June 2017



JUNE PROGRAM

WHAT'S HAPPENING AT THE ARRL?

BY DICK NORTON, N6AA

MEETING NOTICE:

WEDNESDAY, JUNE 28, 2017

JOIN US AT THE SIZZLER, 3755 Murphy Canyon Road,

San Diego, CA 92123 (858) 278-6988

SOCIAL HOUR, 5:00 P.M. DINNER, 5:30 P.M.

MEETING, 6:30 P.M

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From the Prez . . .

Howard, W6HDG

Thanks for a great year!

It has been a privilege to serve as your President this past year. I

can't attend the meeting on

Wednesday so our incoming President, Mike Binder, NA6MB will be running the meeting. Congrats to Mike and may his year be just as rewarding and enjoyable as mine has been. Congrats too to our Board of Directors and to Ron, WB1EAZ who becomes our new Vice President.

I remember a couple of years ago at a May meeting when I was asked by John, NA6L if I'd be willing to accept the VP job. I said yes since John had already gotten more rejections than a nerd at the dance. I got home that evening and probably sounded like George Takei when I deeply moaned "Oh My....." After all, John was an incomparable VP and later turned out to be one of our all time best club Presidents. What an impossible act to follow!

I am a member of several ham clubs and organizations, but the SDDXC is near and dear to my heart. There is a connectedness among the members that is really special. The experience and depth of knowledge of our members is astounding. Their willingness to share and give of their time seems limitless. We are all very lucky.

I take little credit but the club has been working like a finely tuned machine this past year. Mike put together a dynamite program schedule. Randy, KQ6RS is a very conscientious Secretary Treasurer. Miguel, KJ6YXI has put in three years of hard work as a board member – and he continues on as our membership chairman. Ron, NØRR and Ron, WB1EAZ have been dedicated board members whose advice I have counted on. Glen, AI6RR is in the process of getting our website into shape. And of course, our Bulletin Editor Bob, K9RHY produces the most professional newsletter of any club.

It has been a great ride. I look forward to actively participating as the Past President.

Best 73 and Gud DX,

Howard, W6HDG



Secretary/Treasurer Reports

Randy, KQ6RS

Meeting Minutes, SDDXC Club, May 24, 2017

At 6:33 Howard called the meeting to order. 40 members and two guests were in attendance. The guests were: Kevin Korty, N6DND and Ryan Salazar, W6ZAR.

Old business – We had a reminder that the DXCC Summer Bash will be held at the QTH of Glenn Rattmann, K6NA, at noon on August 6. The April meeting minutes and Treasurer's report were approved.

New business – The Operating Day event that was scheduled for May 7th in the Fry's parking lot was rained out. It will be rescheduled at a yet to be determined date. Miguel Rivera, KJ6YXI presented the two new club banners.

The topic of our contribution to NCDXC was discussed. A vote to donate \$2500 was taken and the vote was "no". A vote to donate \$1500 was taken and the vote was "yes". (the check was mailed on June 8th).

John Vissat, NA6L announced the nominations for the next board. They are:

President - Mike Binder, NA6MB

Vice President - Ron Richards, WB1EAZ

Secretary/Treasurer – Randy Standke, KQ6RS

Board of Directors - Ron Stockton, NØRR, Bud Hennessy, AE6BH, Eric Gruff, NC6K

Webmaster - Glen Christensen, AI6RR

Past President - Howard Groveman, W6HDG

Timed out (after three years) - Miguel Rivera, KJ6YXI

Ordering 24 club shirts at \$30 each (\$720) was approved by a vote. They will all be navy blue.

At 7:05 pm the roundtable discussion started.

At 7:35 Kristen McIntyre, K6WX gave a presentation on Ham Radio (and general) Grounding Systems.

At 8:36 the meeting was adjourned.

Treasurer's Report

Income for May: \$35 for membership renewals.

Expenses for May: \$300 for insurance, \$323.49 for banners, \$1500.00 to NCDXF.

Statement Balance on 6/8/2017 \$6,745.31

Randy, KQ6RS



2017 Summer Bash Notice

The 2017 Summer Bash will be held on August 6th at the QTH of Glenn Rattmann, K6NA
14250 Calle De Vista
Valley Center, CA 92082



VP Report

Mike, NA6MB

Gayle K6GO and I are back from China and Tibet. WOW! What an amazing trip. We saw the Great Wall, Terracotta Warriors, Lhasa Tibet (13,000 feet), and cruised through the "Three Gorges" area on the Yangtze River and finally Shanghai.



We only saw one ham antenna.

Looks like 6 m, 2 m and stacked 440? We asked our guide and he said "Oh yes, 73, 88, ham radio!" He said he knew the ham who owned the antenna and gave his call. I emailed him a greeting, but he didn't respond. Maybe it was blocked. Lots of sites are blocked – Google (including maps, email and translate), Facebook, YouTube, etc. Luckily I had a VPN running and just told it I was in the USA, so everything came through.



This is written before ARRL Field Day, but I hope everyone was able to participate and have fun!

DO NOT FORGET – DX Summer Bash is August 6th at noon.

Recap of May Program

Ground Is A Myth!

By Kristen McIntyre, K6WX

Why couldn't we find Kristen a chair and why did we make her sit on the floor?

Kristen K6WX talked about how ground is something you stand on, but in an electrical sense, the meaning is much less clear. Most hams ground systems are "Safety" grounds, that don't really make it as RF grounds. The concept of "Ground" is really a common voltage point and that is difficult to obtain at RF frequencies. That is also where RFI originates. She advises connecting RF gear together to make the reference point



June Program

What's Happening at the ARRL?

By Dick Norton, N6AA

What is going on in the ARRL? Local, USA or International? What are they doing on new frequencies like LF? Deleted and added entities? We will talk about that and our local section (SDG) and the SW division. Come and ask Dick the questions you have on your mind.

73 and good DX (if you can find any...)



Mike, NA6MB

From the Editor

Bob, K9RHY



Really, Really Weak Signals

One of the most exciting aspects of chasing (and working) DX is the allure of hearing weak signals. From one of my all-time favorite DX-related books, "The Complete DXer" by Bob Locher, W9KNI:

"It appears that the band must be changing now. There is only one signal calling me, and I wonder if the path to Japan has faded out. Secondary paths can be very selective that way. There, the station calling me is 9M6SP! East Malaysia, and a Goody! A new one for me. Huh, I didn't even know there was anyone active from there.

Even though I'm in a mild state of shock, my trusty Bencher paddle helps me through my transmission. He responds, having copied solidly, and, after the preliminaries, we begin to ragchew. His name is John, and he is in a small village near a town called Sibul. He tells me of the weather and his rig. He is using a home made half wave vertical for an antenna, with open wire feeders and a bamboo mast for the vertical. He tells me about his gear; old war surplus stuff.

It seems that he is an expatriot Englishman in Malaysia as a teacher. He tells me about the school he teaches in, a secondary school, and he teaches mathematics and physics. He has been in East Malaysia for fifteen years, having gone there as a soldier, and deciding to return after his enlistment was over. He is married, and has two children.

He was very glad to hear my CQ, because he likes DX QSO's, but with the old BC-348 receiver there is no way that he can handle pile-up situations, so he only QSO's W stations by answering CQ calls. His transmitter is war surplus as well, a much modified BC 458 using a pair of 1625's. His VFO is interesting; a BC 454 receiver modified into a VFO mixed with a crystal controlled oscillator. And the antenna tuner is fabricated from another war surplus rig too!"



I guess this short passage really encapsulates my passion for DXing and with that, the thought of hearing that signal all the way from East Malaysia sent from a modified BC 458 tied to the vertical suspended from a bamboo pole says it all. This is the essence of DXing.

So DXing and weak signals are in my blood; they are my passion. You may share this passion with me. I hope you do.

But even after an exciting program about JT-65 at the most recent East Tennessee DX Association meeting, I still can't get enough weak signal adrenaline.

Coincidentally, I was tuning one of the hundreds of TV stations Comcast Cable blesses me with and stumbled upon a segment about the new—and largest—single-antenna weak signal receiving setup in the world. It is called the **Five-hundred-meter Aperture Spherical radio Telescope** (**FAST**; [Chinese](#): 五百米口径球面射电望远镜), nicknamed **Tianyan** (天眼, lit.

"Heavenly Eye" or "The Eye of Heaven". I thought I would share it with my fellow SDDXC club members.

Most of what you see on the internet about FAST is about the antenna. The antenna is impressive, but it is only a part of the receiving system.

The FAST antenna features a fixed primary reflector located in a natural sinkhole in the landscape, focusing radio waves to a receiver suspended 460 ft above it. The reflector is made of perforated aluminum panels supported by a mesh of steel cables hanging from the rim.

FAST's surface is made of 4450 triangular panels, 36 ft on a side, in the form of a geodesic dome. 2225 winches located underneath make it an active surface, pulling on joints between panels, deforming the flexible steel cable support into a parabolic antenna aligned with the desired sky direction.¹

Above the reflector is a light-weight feed cabin moved by a cable robot using winch servomechanisms on six support towers. The receiving antennas are mounted below this on a Stewart platform (a type of parallel robot that has six prismatic actuators, commonly hydraulic jacks or electric actuators, attached in pairs to three positions on the platform's baseplate, crossing over to three mounting points on a top plate. Devices placed on the top plate can be moved in the six degrees of freedom in which it is possible for a freely-suspended body to move) which provides fine position control and compensates for disturbances like wind motion. This produces a planned pointing precision of 8 arc seconds.

FAST is capable of pointing anywhere within $\pm 40^\circ$ from the zenith.

The system's working frequency range is from 70 MHz to 3.0 GHz.

This is NOT a Gotham vertical (remember those? I had one.)

Unlike "boat anchor" receivers or the latest SDRs (which, apparently are great for contesters but currently shunned by the most serious DXers), we find that radio signals from space are far weaker than those used in telecommunications. Because of this, radio astronomy requires systems with broader bandwidths, lower noise, and higher stability. Space receivers are typically cooled to just a few tens of degrees above absolute zero (-273°C). This cooling reduces the "noise" present in all electrical circuits, which would otherwise swamp the delicate signals from space. The receivers are also housed in an evacuated chamber.

The signal strength of solar radiations (like that emitted from neutron stars and nebulae) is expressed as a flux density and has units of a **jansky** - named after Karl Guthe Jansky, an American radio engineer who became a Silent Key in 1950 and first discovered radio waves emanating from the Milky Way.

The **Jansky** (symbol Jy) is a unit of spectral flux density equivalent to 10^{-26} watts per square metre per hertz. As a yardstick, 10^{-26} watts per square metre (1 Jy) would be about the same energy received on Earth from a 100W light bulb (radiating in **all** directions) at a distance of more than 7 times that of the trip from Earth to Neptune.

Of course the FAST receivers are ultimately connected to computers. Indeed, the FAST Data Center will have 100 Petabytes of data storage and a computing power of 1,000 TFLOPS. (Not your typical laptop.) The "head" amplifier and other key instruments (located close to the antenna and remote from the receiver/data processing complex) used to receive at frequencies higher than 560 MHz require a temperature of 10-20 K to ensure low noise. This is interesting: Optical fiber is used to transport IF data using wide-band optical fiber transformation. IF data is converted to light signals, and then transported over optical fiber over a distance of about 3 km, and converted back to IF data to the digital terminals.

The receivers are optimized to deal with circularly-polarized radio signals, the polarization used by all radio telescope receiving stations.

I'll bet that if the FAST antenna could be turned on its side, it might hear 9M6SP at S9!

Bob, K9RHY

YL Forum at 2017 Visalia International DX Convention

The International DX Convention in Visalia, California held its first formal YL Forum on April 22 with approximately 40-50 attendees, both YLs and allies.

Leading our 40 minutes interactive YL Forum was Gayle Olson-Binder, K6GO. Assisting on the panel were Linda Souder W6QE, Anna Sombor, W6NN, and Dr. Carol Milazzo, KP4MD.

Gayle Olson, K6GO, is a member of The San Diego DX Club, the YL DXpedition club, the ARRL and YLRL, the Palomar Amateur Radio Club, Poway Amateur Radio Society, ARES, and is VE for SANDARC, ARRL and W5YI. Gayle shared many slides of the exotic DX locations from which she has operated.

Linda Souder, W6QE, member and winner of the prestigious Clipperton Award of the Southern California DX Club spoke of her experiences as an active DXer.



Anna Sombor, W6NN, shared a dazzling photo show of how she and her boyfriend Rich, KE1B have turned their every vacation on many Caribbean islands into a DXpedition.

Dr. Carol Milazzo, KP4MD, is a member of the River City Amateur Radio Communications Society, the Samuel F. Morse Amateur Radio Club, and the current YLRL District 6 Chair and ARRL Sacramento Valley Section Manager. Carol shared an invitation to

join the YLRL and a slideshow with photos about the logistics and joy of packing an amateur radio station in a roller bag to a vacation condo in Puerto Rico for a budget DXpedition.

The program was followed by a lively question and answer session with the audience, most of whom signed up and availed themselves of YLRL promotional materials. Many attendees complimented us during the remainder of the convention on how they enjoyed the YL Forum and how they wished it had more time allotted.

Thanks to Gayle for organizing this successful forum!

Carol Milazzo, KP4MD





2017 SDDXC DX Hall of Fame Inductees



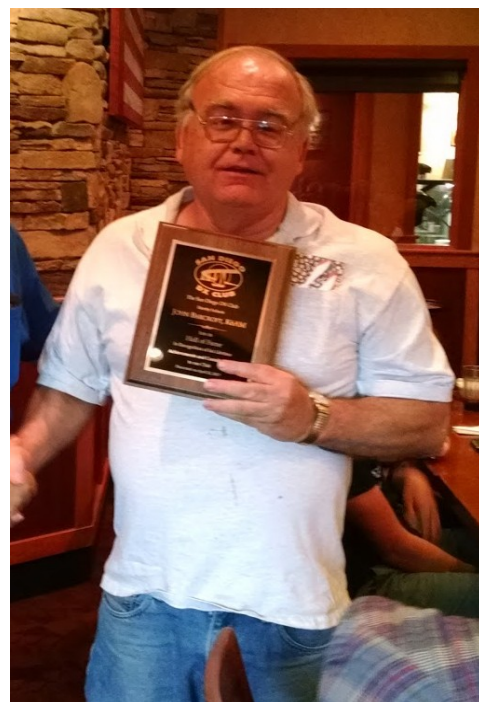
Glenn Rattman, K6NA

Inducted into The San Diego DX Club Hall of Fame in 2017



Jim Price, K6ZH

Inducted into The San Diego DX Club Hall of Fame in 2017

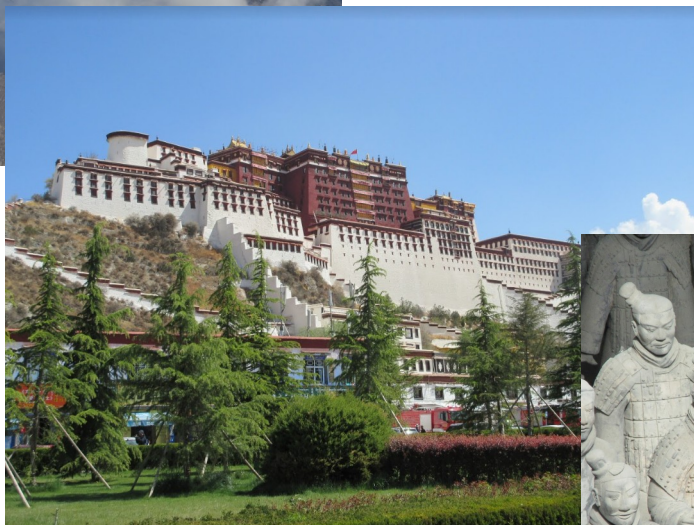


John Barcroft, K6AM

Inducted into The San Diego DX Club Hall of Fame in 2017



China and Tibet NA6MB and K6GO



SDDXC TOP 10 TOTAL BAND-COUNTRIES WORKED

6/17	6/16	CALL	ZNS	C-D	CFM	WKD	CHG	6/17	6/16	CALL	ZNS	C-D	CFM	WKD	CHG
1.	1.	K6XT	321	2672	2758	2839	+4	11.	12.	WB6BFG	330	1855	1865	1975	-
2.	2.	W6YI	367	2654	2708	2804	-	12.	13.	AD6ZJ	319	1694	1716	1820	-
3.	3.	K6AM	2655	2716	2752	-		13.	14.	N6VS	301	1524	1542	1633	-
4.	4.	N7CW	376	2526	2526	2715	-	14.	15.	K5OA	227	1329	1349	1597	-
5.	5.	N6CW	374	?	2300	2629	-	15.	16.	NN6K	226	1513	1539	1539	-
6.	7.	K0XB	345	2305	2341	2371	-	16.	17.	N6XT	295	1114	1114	1442	-
7.	8.	K6ZH	337	2204	2250	2325	+41	17.	18.	WB1EAZ	?	1417	1427	1430	+99
8.	9.	W6YOO	306	2144	2181	2177	-	18.	-	W6HDG	290	1152	1152	1409	NEW
9.	10.	WN6K	332	1889	1924	2171	-	19.	-	N6JOJ	218	985	1032	1032	NEW
10.	11.	NA6L	337	1913	1913	2044	-	20.	19.	N6UWW	290	428	428	1026	-

In the TBC category, the granddaddy of DX'ing, Art, K6XT holds on to first place on the strength of his excellent 160 meter total. WB1EAZ makes the biggest jump over last year for the second year in a row with 99 new ones. Most of your TBC totals got updated last year, so the rest of the list remains static for now

There's plenty of room to make a decent gain in this category by getting on those bands where your totals are still low. The low bands and 6 meters should give up a few more as we approach the bottom of the cycle. For the TBC list, we are showing the first 20 places to accommodate the large number of entries in this category.

Each month, we will publish a top ten list for one of the lesser-recognized but hard won categories. Coming up next, 6/160 and digital followed by phone and CW. Please send me your totals for each band throughout the year and you will be listed in coming months. Use the convenient form at <http://www.sddxc.org> or bring 'em to the meeting.

John, K6AM

SDDXC RESULTS 2016 CQ WORLDWIDE PHONE DX CONTEST

CLASS	CALL	SCORE	QSO'S	MLTS	FINISH
MS - HP	ZF1A (ops W6VNR JH1NBN)	4,312,803	5,933	363	# 4 ZONE 8 # 6 NA
SO - LP	WN6K	267,267	489	231	# 6 ZONE 3
SA - HP	N5ZO	225,568	422	212	
SA - HP	N6XT	195,263	321	239	
SO - HP	N6KI	173,280	303	228	# 10 ZONE 3
SO - HP	K6NA	169,736	334	196	# 12 ZONE 3
SA - HP	K5OA/6	107,744	293	148	
SO - LP	KK6NON	75,762	255	138	# 12 ZONE 3
SA - HP	N6KIM	35,640	101	132	